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Please amend claims 110-114 and 117 as follows:

110. (Twice amended) A substrate with a surface comprising 10^3 or more groups of oligonucleotides with different, known sequences covalently attached to the surface in [predefined] ^{discrete} known regions, said 10^3 or more groups of oligonucleotides occupying a total area of less than 1 cm^2 on said substrate, said groups of oligonucleotides having different nucleotide sequences.

7 111. (Twice amended) The substrate as recited in claim 110 wherein said substrate comprises 10^4 or more different groups of oligonucleotide with known sequences covalently coupled to ^{discrete} [predefined] known regions of said substrate.

3 112. (Twice amended) The substrate as recited in claim 110 wherein said substrate comprises 10^5 or more different groups of oligonucleotides with known sequences in ^{discrete} [predefined] known regions.

4 113. (Twice amended) The substrate as recited in claim 110 wherein said substrate comprises 10^6 or more different groups of oligonucleotides with known sequences in ^{discrete} [predefined] known regions.

5 114. (Twice amended) The substrate as recited in claim 110 wherein said groups of oligonucleotides are at least 50% pure within said ^{discrete} [predefined] known regions.

7 117. (Amended) An array of more than [500] 1,000 different groups of oligonucleotide molecules with known sequences covalently coupled to a surface of a substrate, said groups of oligonucleotide molecules each in ^{discrete} [predefined] known regions and differing from other groups of oligonucleotide